



office@lerche-biotec.com
+49 30 67 80 60 50
Wagner-Régeny Str. 16, 12489 Berlin

Applied
Microspheres

info@applied-microspheres.com
+49 6131 5540080
Nestléstr. 41, 55120 Mainz

Opti-Count®

First of its kind: Nanosized Reference Material for
Precise Measurement of Particle Number Concentration



Precision-engineered particle count reference materials, Opti-Count® are designed for routine use in liquid laser particle counters and are optimal for validating and calibrating both counting and sizing instruments in order to ensure accurate and reproducible results.

Certified Values: Certified particle number concentration and indicative number-weighted size distribution — both traceable to SI units.

Concentration: 10^6 and 10^8 particles/mL available

Particle Size: Monomodal nominal 400 nm polystyrene particles.

Full Uncertainty Budget:

Includes an expanded uncertainty from characterization, homogeneity, storage and transport stability that covers a 95% confidence interval.

Surfactant-Free: Electrostatic stabilization in an aqueous medium means low background noise — ideal for sensitive analytical methods.

Ready-to-Use: Single-use vials (1 mL), requiring only gentle redispersion.

Storage: Room temperature, no refrigeration needed.



Opti-Count® Particle Reference Materials

Certified accuracy. Proven stability. Regulatory confidence.

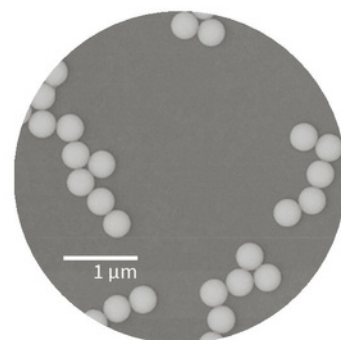
Filling the Gap in Nanoscale Particle Number Concentration Standards

Until now, nanoscale particle analysis has had to rely on count standards that provide only approximate values — with no defined uncertainties and no traceability to guarantee reliability. This limitation has made it difficult to ensure measurement accuracy, defend results, and meet the increasingly strict demands of global regulations.

Opti-Count® changes that. Developed following ISO 17034, the international standard for reference material producers, Opti-Count® provides certified number concentrations and indicative number-weighted particle size distributions for particles below 1 μm . Each batch is rigorously characterized and fully traceable to SI units, ensuring that measurements are accurate, validated, and accountable. Whether meeting legal compliance, assuring product quality, or monitoring nanoplastics exposure, Opti-Count® particles provide confidence in the results that matter.

Why Opti-Count® Stands Apart

No other fully certified nanoscale number concentration reference material exists on the market today. Opti-Count® particles were designed specifically to address the evolving global regulatory landscape, offering laboratories, manufacturers, and researchers a standard they can trust for precision, stability, and traceability. Their advanced formulation ensures easy to use, consistent performance over their lifetime — with convenient storage at room temperature — while its broad application range makes it an indispensable tool in pharmaceutical, biotechnology, semiconductor, cosmetic, and food industries.





Opti-Count® is characterized with state-of-the-art measurement technology, ensuring the highest standards of quality and reliability for your laboratory and industrial applications.

Built on Expertise

Opti-Count® particles are the result of a collaboration between Dr. Lerche KG, an ISO 17025-accredited analytical laboratory with world-class expertise in colloidal analysis, and Applied Microspheres GmbH, a leading manufacturer of particle standards. Characterization was performed using a state-of-the-art single-particle detector comprised of an advanced liquid flow cytometer with multi-angle laser light scattering, enabling simultaneous, calibrated, and traceable analysis of the number-weighted particle size distribution and number concentration with high precision and reproducibility.

OptiCount® Number Concentration Reference Materials Specifications

Feature	Opti-Count® Reference Material
Applications	Validation, Calibration, QC, Monitoring
Concentration	10 ⁶ and 10 ⁸ particles/mL available
Particle Size	Nominal 400 nm
Particle Shape	Spherical
Materials	Polystyrene particles in aqueous medium
Stability	9 months after production date guaranteed
Expanded Uncertainty	<15% (concentration), <8% (size)
Surfactant-Free	✓
pH Value	8
Refractive Index	1.62 @ 405 nm, 1.59 @ 589 nm; 25°C
Density	1.05 g/cm ³
Packaging	Single-use plastic vials (1 mL)
Storage	Store at room temperature, upright and keep vials closed tightly
Package Units	1 x 1 mL and 6 x 1mL available
Ready-to-Use	✓

SCAN ME



Please find more information on: www.opti-count.com